

CLAIMS

What is claims is:

1. A method for use in receiving radio frequency communications,
comprising:
 - 5 receiving an input signal comprising at least one data signal and at least one jamming signal;
 - amplifying the input signal according to a first adjustable bias level and producing a first internal signal;
 - mixing the first internal signal with an intermediate frequency signal and
10 producing a second internal signal;
 - detecting a level of a signal that is proportional to a level of the input signal prior to band limiting such that the level of the detected signal is proportional to a level of the data signal and the jamming signals;
 - generating a bias control signal dependent on the detected level of the detected
15 signal; and
 - adjusting the first bias level in amplifying of the input signal according to the bias control signal.
2. The method of claim 1, wherein the detecting comprises detecting the
20 detected signal such that the bias control signal dictates adjustments to the first bias level in amplifying to compensate for a small data signal and large jamming signals.

3. The method of claim 1, wherein the generating the bias control signal comprises generating the bias control signal to at least in part compensate for jamming signals.

5 4. The method of claim 3, wherein the adjusting the first bias level in amplifying comprises increases the first bias level as the detected signal level increases.

5. The method of claim 4, further comprising:
amplifying the second internal signal according to a second adjustable bias
10 level and producing an output signal; and
adjusting the second bias level in amplifying of the second internal signal according to the bias control signal.

6. The method of claim 5, wherein the adjusting the second bias level in
15 amplifying comprises increases the second bias level as the detected signal level increases.

7. The method of claim 4, further comprising:
switching out the amplifying according to a first adjustable bias level such that
20 the first internal signal received by the mixer is the received input signal when the detected signal meets a threshold.

8. An apparatus for use in radio frequency communication, comprising:
a first amplifier receiving an input signal comprising at least one cellular
signal at a first frequency and jamming signals received with the cellular signal, wherein
the first amplifier has an adjustable bias level to amplify the input signal into a first
5 internal signal;
at least one mixer having an adjustable bias level, wherein the mixer receives
the first internal signal and mixes the first internal signal to a second internal signal at an
intermediate frequency;
at least one detector configured to receive a signal proportional to a signal
10 strength of the received input signal including signal strengths of the cellular signal and
jamming signals received with the cellular signal, wherein the at least one detector
generates a bias control signal according to a detected signal level and jamming signal
levels; and
a first bias generator configured to receive the bias control signal and generate
15 according thereto a bias level applied to at least the first amplifier to define the adjustable
bias level of the first amplifier wherein the bias level increases as the detected signal
level increases.

9. The apparatus of claim 8, wherein the signal received by the at least one
20 detector is proportional to the received cellular signal and any jamming signals prior to
band limiting the received cellular and jamming signals.

10. The apparatus of claim 9, further comprising:

a second amplifier having an adjustable bias level, wherein the second amplifier receives the second internal signal and amplifies the second internal signal according to the bias level applied to the second amplifier.

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11. The apparatus of claim 10, wherein the first bias generator generates another bias level that is applied to the second amplifier to set the bias level of the second amplifier.

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12. The apparatus of claim 10, further comprising:

a second bias generator coupled with the at least one detector to receive the bias control signal, wherein the second bias generator generates according thereto the bias level applied to the second amplifier to define the adjustable bias level of the second amplifier wherein the bias level increases as the detected signal level increases.

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13. An apparatus for use in receiving radio frequency signals, comprising:

means for receiving an input signal that includes data signal and jamming signals;

means for amplifying the input signal according to a first adjustable bias level

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and producing a first internal signal;

means for down converting the first internal signal to produce a second internal signal;

means for detecting a level of a signal that is proportional to a level of the input signal with both the data and jamming signals;

means for generating a bias control signal that is dependent on the level of the detected signal; and

5 means for generating an adjusted bias signal supplied to the means for amplifying to adjust the first bias level of the means for amplifying.

14. The method of claim 13, wherein the means for generating an adjusted bias signal generates the adjusted bias signals to at least in part compensate for the
10 jamming signal.

15. The method of claim 14, wherein the means for generating the first bias level increases the first bias level as the detected signal level increases.

15 16. The method of claim 15, further comprising:

means for amplifying the second internal signal according to a second adjustable bias level and producing an output signal; and

means for generating a second bias level according to the bias control signal, wherein the second bias level is supplied to the means for amplifying the second internal
20 signal to adjust the second adjustable bias level.